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NOTES ON *TULBAGHIA* L.: 4. A SPONTANEOUS HYBRID FROM THE EASTERN CAPE

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Abstract

A spontaneous hybrid of *Tulbaghia*, found in the Eastern Cape is described and named *Tulbaghia* x *aliceae*. Its putative parents are considered to be *T. violacea* Harv. and *T. verdoornia* Vosa and Burbidge.

Uittreksel

NOTAS OOR *TULBAGHIA* L: 4. 'N SPONTANE KRUISING VANAF DIE OOS-KAAP

'n Spontane kruising van *Tulbaghia* wat in die Oos-Kaap gevind is, is beskryf en *Tulbaghia* x *aliceae* genoem. Die vermeende ouers is *T. violacea* Harv. en T. *verdoornia* Vosa en Burbidge.

Artificial hybridization in *Tulbaghia* has been undertaken by the present author since the early sixties. A first account was published in 1966 (a, b) and the data has been extensively used in the cytotaxonomy of the genus published in 1975.

The aim has been to elucidate the genetic diversity of the species used in the crosses and their relationship. Most species cross readily and the degree of success in hybridization is governed by the affinity of the species involved.

In spite of intensive collecting in recent years, no hybrid *Tulbaghia* has ever been found in the wild, notwithstanding careful search, especially where different species overlap in distribution and flowering time.

In 1977, during a short stay in South Africa, I had occasion to visit Fort Hare University at Alice. There I collected a non-flowering plant of *Tulbaghia*, which was growing on the grass verge in front of a dwelling. Overall the plant resembled *T. violacea* in leaf character and rootstock but I was puzzled by the absence of seed capsules.

Enquiries were made at the time of collection to the owner of the house, adjacent to the grass verge, and it seemed that the plant in question had been collected a few years before "in the mountains" near the town. Unfortunately, shortly afterwards, the district was rescheduled as a black housing area and the grass verge was uprooted and destroyed by the new tenants.

The collected specimen was grown in the cool greenhouses of the Botany

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School, Oxford, where it flowered for the first time in 1978 and it proved to be completely sterile.

The flowers are unlike any other species of *Tulbaghia* and intermediate between *T. violacea* and *T. verdoornia*, very similar in fact if not identical with the artificial hybrid described by the present author in 1966 (b): *T. verdoornia* was then considered to be conspecific with *T. dregeana*!

Chromosome analysis (Figs 1, 2 and 3) confirms the morphological diagnosis. The somatic complement of the plant in question contains, in fact, the two haploid karyotypes of the putative parents.

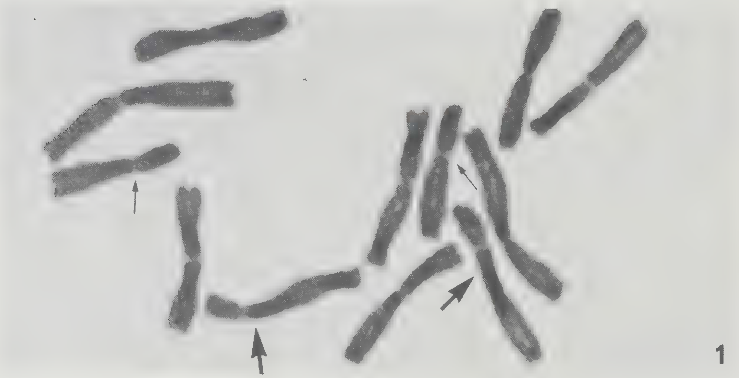

FIG. 1.
The somatic chromosome complement of *Tulbaghia violacea* Harv. The marker chromosomes, two n. 2 and the nucleolar chromosomes n. 6 (type A) are indicated by large and small arrows, respectively.

Three markers are present: the characteristic short short-arm of chromosome 2 of *T. violacea* and the two diverse nucleolar chromosomes of *T. violacea* and *T. verdoornia* which belong to types A and D respectively (see Vosa, 1975, p. 55).

One of the putative parents of the present plant, *T. violacea*, is found wild in the area immediately around Alice, while the known localities of *T. verdoornia* are situated further away to the north east of the town.

T. verdoornia is rather inconspicuous and could have been overlooked by collectors and it may well occur sporadically in the Alice area.

I propose to call the hybrid *Tulbaghia* x *aliceae*. Its typification is as follows:

Tulbaghia x *aliceae* Vosa (= *T. violacea* Harv. x *T. verdoornia* Vosa and Burbidge).

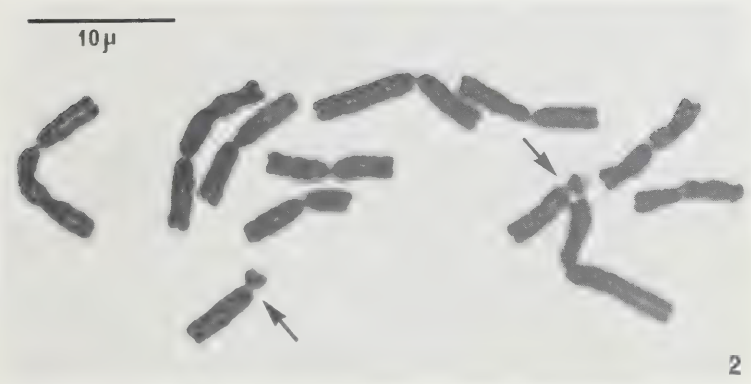

Fig. 2.
The somatic chromosome complement of *Tulbaghia verdoornia* Vosa and Burbidge. The marker chromosomes n. 6 (type D) are indicated by arrows.

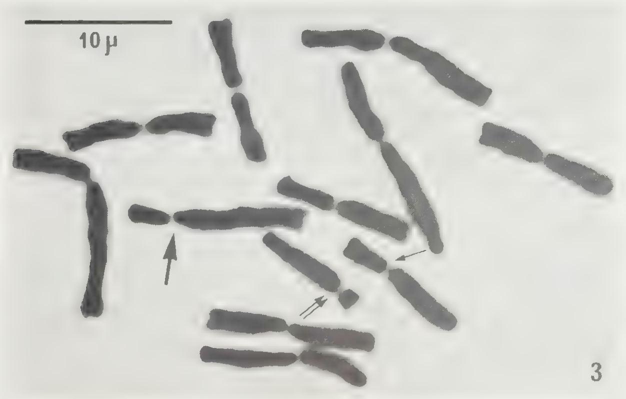

Fig. 3.
The somatic chromosomes of *Tulbaghia* x *aliceae* (*T. violacea* Harv. x *T. verdoornia* Vosa and Burbidge). The marker chromosomes, one n. 2 and one nucleolar n. 6 (type A), from *T. violacea*, are indicated by large and small arrows, respectively; the nucleolar chromosome n. 6 (type D) from *T. verdoornia*, is indicated by the double arrow.

Type:—3226 (Fort Beaufort): grass verge in the town of Alice (-DD), *C. G. Vos. 1511* (OX), from cultivated specimens.

DIAGNOSIS

Plant media, habitu *Tulbaghiae violaceae* Harv. simili, corona carnosa, crocea, per partem quintam in lobos 3 acuto-truncatos vel crênatos divisa.

DESCRIPTION

Planta media, habitu *Tulbaghiae violaceae* Harv. simili; *bulbo* conico, rhizomati brevi insidenti; foliis 15–35 cm longis, 6–10 mm latis, radicalibus, 6–10, erecto-patentibus, elongatis, apicis obtusis; *scapo* 20–35 cm longo, 5–12 floribus; *bracteis* scariosis; *pedicellis* inaequilongis, filiformibus, 25–35 mm longis; *perigonio* purpureo-viridi, tubo sub-conico elongato, 6–8 mm longo, base rotundata; *segmentis* pallide-roseis, oblongo-lanceolatis, longitudine tubo equilongis; *corona* crocea, carnosa, per partem quintam in lobos 3, acuto-truncatos divisa; *stylo* perbrevi, stigmate capitato.

A medium sized plant with the habit of *Tulbaghia violacea* Harv.; *bulb* conical, inserted on the short rhizome; *leaves* 150–350 mm long, 6–10 mm wide, radical, 6–10 in number, elongated with an obtuse apex; *scape* 200 –350 mm long, carrying 5–12 flowers; *bracts* scarious; *pedicels* of differing length, thin, 25–35 mm long; *perigonium* purplish-green, with an elongated sub-conic tube, 6–8 mm long with a round base; *segments* pale-rose, oblong-lanceolate, equal in length to the tube; *corona* yellow-orange, fleshy, divided for a fifth of its length into three truncate or crenate lobes; *style* very short, stigma capitate.

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